# Metadata for Effigy Mounds National Monument, Field Plots Data Base for Vegetation Mapping

Identification_Information:
Citation:
Citation_Information:
Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603
Publication_Date: 20050131
Title: Vegetation Plot Sampling Spatial Database for the Effigy Mounds National Monument Vegetation Mapping Project
Edition: Final
Geospatial_Data_Presentation_Form: vector digital data
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Effigy Mounds NM Vegetation Mapping Project
Publication_Information:
Publication_Place: Denver, Colorado
Publisher: U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details: This spatial database was prepared by the U.S. Geological Survey Upper Midwest Environmental Sciences Center for the USGS-NPS Vegetation Mapping Program. NatureServe provided ecological and vegetation classification support.
Online_Linkage: http://biology.usgs.gov/npsveg/efmo/fielddata.html
Description:
Abstract: The U.S. Geological Survey Upper Midwest Environmental Sciences Center (UMESC) has produced a vegetation spatial database coverage (vegetation map) for the Effigy Mounds National Monument (EFMO) Vegetation Mapping Project, USGS-NPS Vegetation Mapping Program (VMP). The vegetation map shows the locations of plant communities (associations) at EFMO and immediate surroundings. To develop the plant community classification, vegetation samples were collected and analyzed, identifying 15 plant communities of the National Vegetation Classification System (NVCS). (2 more plant communities, however, were identified using accuracy assessment field data, making 17 total plant communities for the EFMO vegetation mapping project.) Ecologists and botanists from UMESC, under the direction of NatureServe, collected 63 vegetation plot samples, 55 collected in 2001 and 8 more in 2002. The UMESC and NatureServe performed ordination analysis to the sampling data. Plant communities of EFMO are defined and described at the local and global scale. (Local descriptions were written for only those 15 associations supported with plot data.) The UMESC has generated a spatial database showing the locations of all 63 vegetation plot samples. Selected field data items extracted from the project's PLOTS database are also included.
Purpose: The vegetation plot sampling spatial database coverage provides spatially referenced locations of vegetation plot samples. These plot samples were collected to develop the vegetation classification for the EFMO Vegetation Mapping Project, USGS-NPS VMP (see Cross Reference at the end of this section for more information on the vegetation map, Project, and the VMP). This metadata report supports not only the vegetation field plot spatial database coverage, but also exported database sets (dBASE IV) from the project's PLOTS database of physical descriptions and species listing for each vegetation sample. For documentation, however, on the analysis methods and results, including the ordination process, see the EFMO Project Report.
Supplemental_Information: The vegetation plot sampling spatial database is a geo-spatial point coverage projected in Universal Transverse Mercator (UTM), Zone 15, using the North American Datum of 1983 (NAD83). Although only select fields from the PLOTS database are included, complete data for each vegetation sampling plot are included in the project's PLOTS database. --- The dBASE IV spreadsheet representing physical descriptions (exported from the project's PLOTS database) contains all items of the physical field data collected for each sample. Complete data for all vegetation samples are preserved on hard copy data sheets, and digitally within the project's PLOTS database.
Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date: 200501
Currentness_Reference: publication date
Status:
Progress: Complete
Maintenance_and_Update_Frequency: None planned
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -91.230154
East_Bounding_Coordinate: -91.152381
North_Bounding_Coordinate: 43.110846
South_Bounding_Coordinate: 42.936392
Description_of_Geographic_Extent: Effigy Mounds National Monument in northeast Iowa, including the Yellow River and Sny Magill Units, and extended environs.
Keywords:
Theme:
Theme_Keyword_Thesaurus: None
Theme_Keyword: Digital Spatial Database
Theme_Keyword: Vegetation Field Plot
Theme_Keyword: Vegetation Sample
Theme_Keyword: PLOTS Database System
Theme_Keyword: Vegetation
Theme_Keyword: Vegetation Map
Theme_Keyword: National Vegetation Classification Standard
Theme_Keyword: National Vegetation Classification System
Theme_Keyword: U.S. National Vegetation Classification
Theme_Keyword: International Vegetation Classification
Theme_Keyword: NVCS
Theme_Keyword: USNVC
Theme_Keyword: National Park
Theme_Keyword: GPS
Theme_Keyword: GIS
Theme_Keyword: Field Data
Theme_Keyword: Effigy Mounds National Monument Vegetation Mapping Project
Theme_Keyword: USGS-NPS Vegetation Mapping Program
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Effigy Mounds National Monument
Place_Keyword: EFMO
Place_Keyword: Yellow River
Place_Keyword: Sny Magill
Place_Keyword: Harpers Ferry
Place_Keyword: Marquette
Place_Keyword: Allamakee County
Place_Keyword: Clayton County
Place_Keyword: Iowa
Place_Keyword: USA
Access_Constraints: GIS software.
Use_Constraints: 1) Those using the spatial database should understand the data and determine for themselves the fitness of the data prior to use. 2) For publication and dissemination, citations or credit should be given to the U.S. Geological Survey Center for Biological Informatics, the National Park Service, the U.S. Geological Survey Upper Midwest Environmental Sciences Center, and NatureServe. 3) Mention of trade names or commercial products in this metadata report does not constitute endorsement or recommendation for use by the U.S. Department of the Interior, U.S. Geological Survey.
Point_of_Contact:

Contact_Information:
Contact_Organization_Primary:
Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: U.S. Geological Survey, Center for Biological Informatics, MS 302, Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Browse_Graphic:
Browse_Graphic_File_Name: <http://biology.usgs.gov/npsveg/efmo/images/efmoplot.jpg>
Browse_Graphic_File_Description: Locations of accuracy assessment sites; low resolution for web browsing.
Browse_Graphic_File_Type: JPG
Data_Set_Credit: The USGS Upper Midwest Environmental Sciences Center and NatureServe.
Native_Data_Set_Environment: ESRI ArcView GIS 3.3; ESRI ArcInfo Workstation 9.0; ESRI ArcCatalog 9.0.0.535; Microsoft Windows 2000 Version 5.0 (Build 2195) Service Pack 4.
Cross_Reference:
Citation_Information:
Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603
Publication_Date: 20050131
Title: Effigy Mounds National Monument Vegetation Mapping Project
Geospatial_Data_Presentation_Form: document
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Effigy Mounds NM Vegetation Mapping Project
Publication_Information:
Publication_Place: Denver, Colorado
Publisher: U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details: The Effigy Mounds National Monument (EFMO) Vegetation Mapping Project is an initiative of the U.S. Geological Survey (USGS)-National Park Service (NPS) Vegetation Mapping Program (VMP). (For more information on VMP, see larger work citation below.) The goals of the project are to adequately describe and map plant communities of EFMO and immediate surroundings and to provide the NPS Inventory and Monitoring (I&M) Program, resource managers, and biological researchers with useful baseline vegetation information. The USGS Upper Midwest Environmental Sciences Center (UMESC) in La Crosse, Wisconsin, and the Minneapolis Office of NatureServe in Minneapolis, Minnesota, have mapped and classified the existing plant communities at EFMO and extended surroundings. --- Common to all VMP mapping projects, the three major components of the EFMO Vegetation Mapping Project are vegetation classification, vegetation mapping, and map accuracy assessment. Two sets of aerial photographs were collected during summer and fall of 2000, and the mapping project was officially inaugurated spring 2001 with a scoping meeting where partners discussed the project's objectives, goals, and methods. Photointerpreters, ecologists, and botanists collaborated to describe National Vegetation Classification System (NVCS) plant associations (communities) and determine how best to map them using the aerial photographs. Plant community descriptions were derived from analyses of vegetation sampling data at EFMO. These plant communities, along with NVCS Formation vegetation units depicting human disturbance and cultivated lands and with units describing human-made structures, were interpreted and mapped using aerial photographs and mirror stereoscopes. Spatial database coverages were produced of the Yellow River and Sny Magill units and their respective environs using state-of-the-art photogrammetric and GIS software. An accuracy assessment of the map coverages were performed on map classes representing NVCS plant communities, with results exceeding VMP standards. --- The EFMO project delivers many geospatial and vegetation data products in hard copy and digital formats, including an in-depth project summary report discussing methods and results,

plant community descriptions and dichotomous key, representative ground photos of plant communities, a database containing the plot samples and accuracy assessment, field data sheets, aerial photograph prints and images (including geo-referenced photo mosaics), map classification and descriptions, and spatial coverages and maps of plant communities, fieldwork locations, aerial photo indexes, and project boundaries (each supported with metadata reports). All geospatial products are in Universal Transverse Mercator projection, Zone 15, using North American Datum of 1983. More VMP information and products of completed park mapping projects are on the Internet at <http://biology.usgs.gov/npsveg>.

Online_Linkage: http://biology.usgs.gov/npsveg/efmo/

Larger_Work_Citation:

Citation_Information:

Originator: U.S. Geological Survey, Center for Biological Information

Publication_Date: 200304

Title: USGS-NPS Vegetation Mapping Program (May 2003)

Geospatial_Data_Presentation_Form: document

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Overview

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: Overview of USGS - NPS Vegetation Mapping Program (taken from http://biology.usgs.gov/npsveg/overview.html, May 2003): The USGS-NPS Vegetation Mapping Program is a cooperative effort by the U.S. Geological Survey (USGS) and the National Park Service (NPS) to classify, describe, and map vegetation communities in more than 270 national park units across the United States. This landmark program is both the first to provide national-scale descriptions of vegetation for a federal agency and the first to create national vegetation standards for its data products. Its goal is to meet specific information needs identified by the National Park Service. --- The vegetation mapping program is an important part of the NPS Inventory and Monitoring Program, a long-term effort to develop baseline data for all national park units that have a natural resource component. It is managed by the USGS Center for Biological Informatics, a unique information center designed to help scientists, land managers, the public, and others locate and apply biological information. --- Program activities are based on peer-reviewed, objective science. Comprehensive vegetation information is provided at national and regional levels, while also serving local management needs of individual parks. Stringent quality control procedures ensure that products are accurate and consistent for initial inventory purposes and replicable for monitoring purposes. The spatially enabled digital products produced by the program are available on the World Wide Web. --- Program scientists have developed data collection procedures for classification, mapping, accuracy assessment, and use of existing data. Program products meet Federal Geographic Data Committee standards for vegetation classification and metadata, and national standards for spatial accuracy and data transfer. Standards include a minimum mapping unit of 0.5 hectares and classification accuracy of 80% for each map class. Nature Serve, an important partner in the USGS-NPS Vegetation Mapping program, is the caretaker of the National Vegetation Classification System, which is used by the program to classify vegetation communities. --- A report of project methods and results is provided at completion of individual projects. Project results include a rich set of data and information for each park project, as follows: --- Spatial Data: Aerial photography, Map classification, Map classification description and key, Spatial database of vegetation communities, Hardcopy maps of vegetation communities, Metadata for spatial databases, Complete accuracy assessment of spatial data, Vegetation Information. --- Vegetation classification: Dichotomous field key of vegetation classes, Formal description for each vegetation class, Ground photos of vegetation classes, Field data in database format.

Online_Linkage: http://biology.usgs.gov/npsveg/

Taxonomy:

Keywords/Taxon:

Taxonomic_Keyword_Thesaurus: None

Taxonomic_Keywords: National Vegetation Classification Standard

Taxonomic_Keywords: National Vegetation Classification System

Taxonomic_Keywords: NVCS

Taxonomic_Keywords: U.S. National Vegetation Classification

Taxonomic_Keywords: USNVC

Taxonomic_Keywords: International Vegetation Classification
Taxonomic_Keywords: Association
Taxonomic_Keywords: Plant Community
Taxonomic_System:
Classification_System/Authority:
Classification_System_Citation:
Citation_Information:
Originator: US Department of Agriculture, Natural Resources Conservation Service
Publication_Date: 199612
Title: The PLANTS Database (1996)
Geospatial_Data_Presentation_Form: database
Series_Information:
Series_Name: The Plants Database
Issue_Identification: December 1996
Publication_Information:
Publication_Place: National Plant Data Center, Baton Rouge, Louisiana
Publisher: USDA, NRCS
Other_Citation_Details: The Plants Database as of December 1996. USDA Natural Resources Conservation Service. Web address: http://plants.usda.gov/plants. Version used in the PLOTS Database System (1997).
Online_Linkage: http://plants.usda.gov/plants
Classification_System_Modifications: This is the version of The PLANTS Database that is used in the The Nature Conservancy's PLOTS Database System (Version 1.1, 1997).
Taxonomic_Procedures: The plant community classification and descriptions for the EFMO Vegetation Mapping Project were developed through the analyses of vegetation sampling data using ordination and clustering techniques via computer software. Vegetation field plot data were entered into the PLOTS Database System (TNC 1997), which uses the USDA NRCS PLANTS Database. This database is available for download at the USGS-NPS VMP web site. A listing of vegetation species recorded with these field plots is provided in the EFMO Project Report, also available at the VMP web site.
Taxonomic_Classification:
Taxon_Rank_Name: Kingdom
Taxon_Rank_Value: Plantae

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: The various attributes within the spatial database were reviewed and checked for consistency with their original sources (digital data, data sheets), using a combination of manual and digital means.
Logical_Consistency_Report: All point features are unique with their own site attribute and X-Y (Easting-Northing) coordinates. There are no duplicate points.
Completeness_Report: All 63 vegetation plot samples are included in the spatial point coverage. X-Y coordinates are projected in UTM, Zone 15, using NAD83.
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report: X-Y coordinates of field data locations were collected using a Rockwell Precision Lightweight GPS Receiver (PLGR). Most points were successfully collected with positional accuracies ranging from +/- 5 to +/- 10 meters.
Lineage:
Methodology:
Methodology_Type: Field
Methodology_Identifier:
Methodology_Keyword_Thesaurus: None
Methodology_Keyword: Vegetation Sample
Methodology_Keyword: Vegetation Plot
Methodology_Keyword: Vegetation Analysis
Methodology_Keyword: Vegetation Classification
Methodology_Keyword: PLOTS Database System

Methodology_Description: Field Methods for Vegetation Mapping derived for the USGS-NPS VMP. Modified and adapted to unique circumstances presented with the EFMO Vegetation Mapping Project.
Methodology_Citation:
Citation_Information:
Originator: The Nature Conservancy and the Environmental Systems Research Institute
Publication_Date: 199412
Title: NBS/NPS Vegetation Mapping Program: Field Methods for Vegetation Mapping (1994b)
Edition: Final Draft
Geospatial_Data_Presentation_Form: document
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Program Documents and Standards
Publication_Information:
Publication_Place: Denver, Colorado
Publisher: U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details: The Nature Conservancy and the Environmental Systems Research Institute. 1994b. NBS/NPS Vegetation Mapping Program: Field Methods for Vegetation Mapping. Prepared for the U.S. Department of the Interior, National Biological Survey and National Park Service. -- Section 5 contains the procedures for vegetation field plot sampling, Methodology modified to match unique characteristics and challenges.
Online_Linkage: http://biology.usgs.gov/npsveg/fieldmethods/index.html
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603
Publication_Date: 20050131
Title: Vegetation Plot Sampling Spatial Database for the Effigy Mounds National Monument Vegetation Mapping Project
Edition: Final
Geospatial_Data_Presentation_Form: vector digital data
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Effigy Mounds NM Vegetation Mapping Project
Publication_Information:
Publication_Place: Denver, Colorado
Publisher: U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details: This spatial database was prepared by the U.S. Geological Survey Upper Midwest Environmental Sciences Center for the USGS-NPS Vegetation Mapping Program. NatureServe provided ecological and vegetation classification support.
Online_Linkage: http://biology.usgs.gov/npsveg/efmo/
Type_of_Source_Media: digital database file
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 20050131
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: EFMO Vegetation Field Plot Spatial Database
Source_Contribution: Geo-spatial product showing locations of vegetation field sampling locations.
Source_Information:
Source_Citation:
Citation_Information:
Originator: NatureServe
Publication_Date: 2003
Title: International Vegetation Classification (2003a)
Geospatial_Data_Presentation_Form: database

Publication_Information:
Publication_Place: Arlington, Virginia
Publisher: NatureServe
Other_Citation_Details: NatureServe. 2003a. International Ecological Classification Standard: International Vegetation Classification. Central Databases. NatureServe, Arlington, Virginia, USA.
Online_Linkage: http://www.natureserve.org/
Type_of_Source_Media: online
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2003
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: NVCS Floristic Classes (NatureServe 2003a)
Source_Contribution: Vegetation classification (floristic association and alliance types, 2003) defining natural/semi-natural vegetation types in the EFMO Yellow River and Sny Magill vegetation spatial database coverages.
Source_Information:
Source_Citation:
Citation_Information:
Originator: The Nature Conservancy
Publication_Date: 1997
Title: PLOTS Database System (1997)
Edition: Version 1.1
Geospatial_Data_Presentation_Form: computer program
Publication_Information:
Publication_Place: Arlington, Virginia
Publisher: The Nature Conservancy
Other_Citation_Details: Plant species taxonomy extracted from the December 1996 version of The PLANTS Database (USDA).
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1997
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: PLOTS (1997)
Source_Contribution: Computer software program used for vegetation data entry and subsequent export for vegetation analysis.
Process_Step:
Process_Description: INTRODUCTION: --- A number of steps were involved to classify the vegetation at EFMO: 1) a draft classification list as a starting point for classification work, 2) collection of plot sampling data, 3) subsequent analyses for plant community identification, and 4) development of NVCS plant community descriptions. Refer to the EFMO Project Report for these details. --- The vegetation plot sampling spatial database provides the locations of all sampling sites along with select sampling information. The following describes the development of the vegetation plot sampling spatial database.
Process_Date: 2001-2004
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Contact_Address:
Address_Type: mailing and physical address
Address: 2630 Fanta Reed Road
City: La Crosse
State_or_Province: Wisconsin
Postal_Code: 54603

Country: USA
Contact_Voice_Telephone: (608) 781-6451
Contact_Facsimile_Telephone: (608) 783-8058
Contact_Electronic_Mail_Address: URL address: http://www.umesc.er.usgs.gov/umesc_home.html
Hours_of_Service: 7:30 AM - 4:00 PM, M-F
Contact_Instructions: Ask receptionist for national park mapping contact in geospatial applications branch.
Process_Step:
Process_Description: FIELD METHODS: --- Of the 63 plots, 55 were collected in 2001. The remaining 8 plots were collected in 2002 (during accuracy assessment field data collection). Methods were derived from those in Section 5 of the USGS-NPS VMP Field Methods for Vegetation Mapping manual (TNC et al. 1994b). X-Y coordinates of each plot were collected using a Rockwell Precision Lightweight GPS Receiver (PLGR) unit with projection in UTM (Zone 15) using NAD83. Field data were entered into the PLOTS Database System, which was used to produce plot vegetation summaries and associated environmental information. Through analysis, the vegetation classification derived and local descriptions were written.
Process_Date: 2001-2002
Source_Produced_Citation_Abbreviation: NVCS Floristic Classes (NatureServe 2003a)
Process_Step:
Process_Description: SPATIAL DATABASE: --- Vegetation plot samples with their corresponding X-Y coordinates and selected physical description information were exported from the PLOTS database. The exported file was imported into ArcView GIS (Version 3.3) as an Event Theme using X-Y coordinates, and then converted to a Shapefile. In ArcGIS (ArcInfo Workstation ArcTools 9.0), the Shapefile was converted to an ArcInfo coverage, converted from single to double precision, projection defined to UTM (Zone 15) NAD83, and lastly packaged into an ArcInfo Export (.e00) file (no compression).
Source_Used_Citation_Abbreviation: NVCS Floristic Classes (NatureServe 2003a)
Process_Date: 2004
Source_Produced_Citation_Abbreviation: EFMO Vegetation Field Plot Spatial Database
Process_Step:
Process_Description: DBASE IV EXPORTS: --- The physical descriptions dBASE IV spreadsheet contains all items of physical descriptions for each vegetation plot sample that is in the PLOTS database. The physical descriptions were exported from the database's Plots Table. The species list dBASE IV spreadsheet contains all items of species listing for each vegetation plot sample that is in the PLOTS database. The species list was exported from the database's Plots-Species Table.
Process_Date: 2004

Spatial_Data_Organization_Information:
Indirect_Spatial_Reference: Located in northeastern Iowa in Allamakee and Clayton counties, EFMO is adjacent to the Mississippi River in a topographically unique area known as the Paleozoic Plateau region. The EFMO headquarters is 3 miles north of Marquette, Iowa. The main section of EFMO, the Yellow River Unit, envelops the Yellow River near its confluence with the Mississippi River. The Sny Magill Unit is approximately 16 km (10 miles) south of headquarters within the Mississippi River floodplain.
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Entity point
Point_and_Vector_Object_Count: 63
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Point
Point_and_Vector_Object_Count: 4

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 15

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        Transverse_Mercator:
          Scale_Factor_at_Central_Meridian: 0.9996
          Longitude_of_Central_Meridian: -93
          Latitude_of_Projection_Origin: 0
          False_Easting: 500000
          False_Northing: 0
      Planar_Coordinate_Information:
        Planar_Coordinate_Encoding_Method: Coordinate Pair
        Coordinate_Representation:
          Abscissa_Resolution: 0.000032
          Ordinate_Resolution: 0.000032
        Planar_Distance_Units: meters
    Geodetic_Model:
      Horizontal_Datum_Name: North American Datum of 1983
      Ellipsoid_Name: Geodetic Reference System 80
      Semi-major_Axis: 6378137
      Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
  Detailed_Description:
    Entity_Type:
      Entity_Type_Label: efmo_plot.pat
      Entity_Type_Definition: ArcInfo attribute tables from the EFMO vegetation plot spatial database coverage.
          (Numbers & dashes in front of Attribute Labels are added for sorting purposes; Attribute Labels are listed in
          the order they appear in the spatial database sets.)
      Entity_Type_Definition_Source: Attribute tables developed by the USGS UMESC to describe the EFMO
          vegetation plot spatial database coverage, USGS-NPS VMP.
    Attribute:
      Attribute_Label: 01 - SHAPE
      Attribute_Definition: Feature geometry.
      Attribute_Definition_Source: ESRI.
      Attribute_Domain_Values:
        Unrepresentable_Domain: Coordinates defining the features.
    Attribute:
      Attribute_Label: 02 - AREA
      Attribute_Definition: Area of feature in internal units squared.
      Attribute_Definition_Source: ESRI.
      Attribute_Domain_Values:
        Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.
    Attribute:
      Attribute_Label: 03 - PERIMETER
      Attribute_Definition: Perimeter of feature in internal units.
      Attribute_Definition_Source: ESRI.
      Attribute_Domain_Values:
        Unrepresentable_Domain: Perimeter is always zero for point coverages. Values are automatically generated.
    Attribute:
      Attribute_Label: 04 - EFMO_PLOT#
      Attribute_Definition: Internal feature number.
      Attribute_Definition_Source: ESRI.
      Attribute_Domain_Values:
        Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
    Attribute:
      Attribute_Label: 05 - EFMO_PLOT-ID
      Attribute_Definition: User-defined feature number.
      Attribute_Definition_Source: ESRI.
      Attribute_Domain_Values:
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Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: 06 - PLOT_SITE
Attribute_Definition: Vegetation plot sampling site number.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers manually generated by field crew.
Attribute:
Attribute_Label: 07 - ASSN_NAME
Attribute_Definition: Association scientific name.
Attribute_Definition_Source: NatureServe. 2003a. International Ecological Classification Standard: International Vegetation Classification. Central Databases. NatureServe, Arlington, VA.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Acer saccharum - Tilia americana / Ostrya virginiana - Carpinus caroliniana Forest Association
Enumerated_Domain_Value_Definition: North-central Maple - Basswood Forest (association synonym name). NVCS Code: I.B.2.N.a.8, CEGL002062.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Fraxinus pennsylvanica - Ulmus americana - (Juglans nigra, Celtis occidentalis) Forest Association
Enumerated_Domain_Value_Definition: Ash - Elm - Walnut - Hackberry Semi-natural Forest (association synonym name). NVCS Code: I.B.2.N.a.47, CEGL005239.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Quercus alba - Quercus rubra - Carya ovata Glaciated Forest Association
Enumerated_Domain_Value_Definition: Midwestern White Oak - Red Oak Forest (association synonym name). NVCS Code: I.B.2.N.a.27, CEGL002068.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Quercus muehlenbergii - Quercus (alba, velutina) - (Juniperus virginiana var. virginiana) Bluff Woodland Association
Enumerated_Domain_Value_Definition: Chinquapin Oak Bluff Woodland (association synonym name). NVCS Code: II.B.2.N.a.21, CEGL002144.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Acer saccharinum - Ulmus americana - (Populus deltoides) Forest Association
Enumerated_Domain_Value_Definition: Silver Maple - Elm - (Cottonwood) Forest (association synonym name). NVCS Code: I.B.2.N.d.4, CEGL002586.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Andropogon gerardii - Sorghastrum nutans - (Sporobolus heterolepis) - Liatris spp. - Ratibida pinnata Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition: Central Mesic Tallgrass Prairie (association synonym name). NVCS Code: V.A.5.N.a.2, CEGL002203.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Populus deltoides - Salix nigra Forest Association
Enumerated_Domain_Value_Definition: Eastern Cottonwood - Black Willow Forest (association synonym name). NVCS Code: I.B.2.N.d.15, CEGL002018.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Salix interior Temporarily Flooded Shrubland Association
Enumerated_Domain_Value_Definition: Sandbar Willow Shrubland (association synonym name). NVCS Code: III.B.2.N.d.6, CEGL008562.

Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Cephalanthus occidentalis / Carex spp. Northern Shrubland Association
Enumerated_Domain_Value_Definition: Buttonbush Shrubland (association synonym name). NVCS Code: III.B.2.N.f.1, CEGL002190.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Phalaris arundinacea Eastern Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition: Reed Canary Grass Eastern Marsh (association synonym name). NVCS Code: V.A.5.N.k.20, CEGL006044.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Schoenoplectus fluviatilis - Schoenoplectus spp. Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition: River Bulrush Marsh (association synonym name). NVCS Code: V.A.5.N.k.26, CEGL002221.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Schoenoplectus tabernaemontani - Typha spp. - (Sparganium spp., Juncus spp.) Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition: Bulrush - Cattail - Burreed Shallow Marsh (association synonym name). NVCS Code: V.A.5.N.k.33, CEGL006044.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Sagittaria latifolia - Leersia oryzoides Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition: Arrowhead - Rice Cutgrass Marsh (association synonym name). NVCS Code: V.B.2.N.e.7, CEGL005240.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Potamogeton spp. - Ceratophyllum spp. Midwest Herbaceous Vegetation Association Midwest
Enumerated_Domain_Value_Definition: Pondweed Submerged Wetland (association synonym name). NVCS Code: V.C.2.N.a.14, CEGL002282.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Nelumbo lutea Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition: American Lotus Aquatic Wetland (association synonym name). NVCS Code: V.C.2.N.a.100, CEGL004323.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: Nuphar lutea ssp. advena - Nymphaea odorata Herbaceous Vegetation Association
Enumerated_Domain_Value_Definition:
Water Lily Aquatic Wetland (association synonym name). NVCS Code: V.C.2.N.a.102, CEGL002286.
Water Lily Aquatic Wetland (association synonym name). NVCS Code: V.C.2.N.a.14, CEGL002282.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Enumerated_Domain:
Enumerated_Domain_Value: River Mud Flats Sparse Vegetation
Enumerated_Domain_Value_Definition: River Mud Flats (association synonym name). NVCS Code: VII.C.4.N.c.1, CEGL002314.
Enumerated_Domain_Value_Definition_Source: NatureServe.
Codeset_Domain:
Codeset_Name: Associations (plant communities) of Effigy Mounds National Monument.
Codeset_Source: Associations are listed & described in Appendix C: Plant Community Descriptions of Effigy Mounds National Monument, Project Report - January 2005, Effigy Mounds National Monument, USGS-NPS Vegetation Mapping Program.
Attribute:

Attribute_Label: 08 - ASSN_SNAME
Attribute_Definition: Association synonym name.
Attribute_Definition_Source: NatureServe. 2003a. International Ecological Classification Standard: International Vegetation Classification. Central Databases. NatureServe, Arlington, VA.
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: Associations (plant communities) of Effigy Mounds National Monument.
Codeset_Source: See Enumerated Domain Value Definition for 07 - ASSN_NAME. Also, associations are listed & described in Appendix C: Plant Community Descriptions of Effigy Mounds National Monument, Project Report - January 2005, Effigy Mounds National Monument, USGS-NPS Vegetation Mapping Program.
Attribute:
Attribute_Label: 09 - ASSN_CEGL
Attribute_Definition: Community Element Global code.
Attribute_Definition_Source: NatureServe. 2003a. International Ecological Classification Standard: International Vegetation Classification. Central Databases. NatureServe, Arlington, VA.
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: Community Element Global codes of Effigy Mounds National Monument.
Codeset_Source: See Enumerated Domain Value Definition for 07 - ASSN_NAME. Also, Community Element Global codes are listed & described in Appendix C: Plant Community Descriptions of Effigy Mounds National Monument, Project Report - January 2005, Effigy Mounds National Monument, USGS-NPS Vegetation Mapping Program.
Attribute:
Attribute_Label: 10 - LOCATION
Attribute_Definition: Location in reference to EFMO unit.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Project-derived location descriptions providing general location in and around EFMO.
Attribute:
Attribute_Label: 11 - QUAD_24K
Attribute_Definition: USGS 7.5-minute quadrangle (1:24,000-scale) of the field site location.
Attribute_Definition_Source: USGS.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Clayton
Enumerated_Domain_Value_Definition: 7.5-minute (1:24,000-scale) Quadrangle.
Enumerated_Domain_Value_Definition_Source: USGS.
Enumerated_Domain:
Enumerated_Domain_Value: Harpers Ferry
Enumerated_Domain_Value_Definition: 7.5-minute (1:24,000-scale) Quadrangle.
Enumerated_Domain_Value_Definition_Source: USGS.
Enumerated_Domain:
Enumerated_Domain_Value: Prairie du Chien
Enumerated_Domain_Value_Definition: 7.5-minute (1:24,000-scale) Quadrangle.
Enumerated_Domain_Value_Definition_Source: USGS.
Codeset_Domain:
Codeset_Name: 7.5-minute quadrangles.
Codeset_Source: USGS.
Attribute:
Attribute_Label: 12 - GPS_TECH
Attribute_Definition: GPS receiver used to collect the ground coordinates, the projection and datum GPS coordinates collected in, and the GPS accuracy.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Global explanation of the GPS_TECH Attribute Label item.
Attribute:

Attribute_Label: 13 - X_EASTING
Attribute_Definition: Easting coordinate of field site location.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Easting coordinate collected during field sampling.
Attribute:
Attribute_Label: 14 - Y_NORTHING
Attribute_Definition: Northing coordinate of field site location.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Northing coordinate collected during field sampling.
Attribute:
Attribute_Label: 15 - PLOT_DATE
Attribute_Definition: Date field data was collected
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: MM/DD/YYYY
Beginning_Date_of_Attribute_Values: 20010710
Ending_Date_of_Attribute_Values: 20020905
Attribute:
Attribute_Label: 16 - GRND_PHOTO
Attribute_Definition: Ground photos collected of the field site.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Ground photo digital image file; VP#:N, where # is the plot sample site number, and N is a unique number for multiple pictures of site.
Attribute:
Attribute_Label: 17 - AIR_PHOTO
Attribute_Definition: Aerial photograph (October 9, 2000 CIR, 1:8,000-scale) of the field site location.
Attribute_Definition_Source: USGS UMESC.
Attribute_Domain_Values:
Unrepresentable_Domain: Reflects the frame number of the original film transparency.
Overview_Description:
Entity_and_Attribute_Overview: Items within the spatial database attribute tables include: 1) SHAPE - Feature geometry. 2) AREA - Area of feature in internal units squared. 3) PERIMETER - Perimeter of feature in internal units. 4) EFMO_PLOT# - Internal feature number. 5) EFMO_PLOT-ID - User-defined feature number. 6) PLOT_SITE - Vegetation plot sampling site number. 7) ASSN_NAME - Association scientific name. 8) ASSN_SNAME - Association synonym name. 9) ASSN_CEGL - Community Element Global code. 10) LOCATION - Location in reference to EFMO unit. 11) QUAD_24K - USGS 7.5-minute quadrangle (1:24,000-scale) of the field site location. 12) GPS_TECH - GPS receiver used to collect the ground coordinates, the projection and datum GPS coordinates collected in, and the GPS accuracy. 13) X_EASTING - Easting coordinate of field site location. 14) Y_NORTHING - Northing coordinate of field site location. 15) PLOT_DATE - Date field data was collected (yyyy/mm/dd). 16) GRND_PHOTO - Ground photos collected of the field site.17) AIR_PHOTO - Aerial photograph (October 9, 2000 CIR, 1:8,000-scale) of the field site location.
Entity_and_Attribute_Detail_Citation: Various citations referencing Attribute Label items. Refer to individual Attributes within the Detailed Description Entity Type section for citations.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address

Address: U.S. Geological Survey, Center for Biological Informatics, MS 302, Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Resource_Description: Downloadable Data
Distribution_Liability: Although these data have been processed successfully on a computer system at the U.S. Geological Survey, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly recommended that these data are directly acquired from a U.S. Geological Survey server, and not indirectly through other sources which may have changed the data in some way. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. The U.S. Geological Survey shall not be held liable for improper or incorrect use of the data described and/or contained herein. Mention of trade names or commercial products in this metadata report does not constitute endorsement or recommendation for use by the U. S. Department of the Interior, U. S. Geological Survey.
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: HTML
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://biology.usgs.gov/npsveg/efmo/fielddata.html
Fees: none

Metadata_Reference_Information:
Metadata_Date: 20050131
Metadata_Review_Date: 20050307
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: U.S. Geological Survey, Center for Biological Informatics, MS 302, Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Metadata_Standard_Name: Content Standard for Digital Geospatial Metadata, 1998, Part 1: Biological Data Profile, 1999 (FGDC-STD-001.1-1999)
Metadata_Standard_Version: FGDC-STD-001-1999